OURAY NWR - NARRATIVE REPORT - 1968


BRENNAN BOTTOM
JOHNSON BOTTOM
LEOTA BOTTOM
SHEPPARD BOTTOM
WYASKET BOTTOM
WOODS BOTTOM
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NARRATIVE REPORT

OURAY NATIONAL WILDLIFE REFUGE

1968

Personnel

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TABLE OF CONTENTS

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I. GENERAL

A. Weather Conditions

The following weather information was recorded at the U. S. Weather Bureau station at refuge headquarters:

Table 1.

	Temperatures				Precipitation		
	Max.		Min.		This		
	Av.	Ext.	Av.	Ext.	Month	Average	Snowfall
January	17	38	-12	-30	T	.41	
February	34	49	11	-12	0.42	.36	5.0
March	57	74	23	16	0.31	.40	2.0
April	59	77	29	20	1.49	.60	4.0
May	73	90	41	22	0.67	.70	
June	88	99	50	38	0.45	.71	
July	93	100	57	42	0.09	.52	
August	84	93	51	39	1.07	.73	
September	79	92	39	29	0.24	.61	
October	68	78	32	21	0.57	.61	
November	48	62	20	6	0.13	.38	T
December	27	45	4	-20	0.24	.28	4.5
Extremes:		100		-30	5.68	6.31	15.5

Winter 1967-68 was not a hard one as Ouray winters go. "Baby 1968" inherited eight inches of powder snow from "Old Man '67." Temperatures stayed low and the snow did not crust. More snow fell in February and there was snow on the ground until the end of that month. Most ice in the river was gone by February 28. There was some ice on the Leota impoundments until March 20.

The spring thaw was slow, gentle and unspectacular. Daytime temperatures for the last of February stayed in the 40's and there was little runoff. The river ice broke up without a hitch. Good spring rains and wet snows brought 2.47 inches of moisture in March, April and May, well above the 1.70" average. However, these months also brought dry westerly winds, drawing the moisture back out of the ground. Cold nights, with some freezing, lingered on through May, giving corn crops a late start. June and July were quite dry and hot. August had below average temperatures and there were a number of showers. The summer was a great one for mosquitoes, but a miserable one for their victims.

Fall in the Uintah Basin is usually just darned pleasant, the most comfortable season weatherwise -- and fall '68 was no exception. Indian Summer aptly describes it. Temperate days, cool nights, no mosquitoes. The first sub-freezing minimum (31^{O}) was recorded on September 17. In December two separate storm fronts deposited 4.5" of snow on the refuge. Each front brought several days of sub-zero minimums, but winter thus far has generally been mild. Two inches of snow remain at year's end.

B. Habitat Conditions

1. Water

"Leads" in the river ice provided water for overwintering waterfowl. With the end of February came open water in the river. By March 3 there was some open water in Leota, and by mid-March the Leota impoundments were free of ice. While the Leota units were thawing, strong winds caused shifting of ice that took out five water gage posts. Since this appears to be an annual event, they were not replaced.

The river was abnormally high most of the winter. Water was being released from Flaming Gorge Reservoir (located on Green River in northern Utah near the Utah-Wyoming border) to help fill Lake Powell (in southern Utah). This high water level retarded leakage from the Leota units. It also produced "reverse subbing," which actually raised some units, putting water over the ice in places. Consequently, Leota water levels were in pretty good shape after the thaw. The pump was started March 25 to boost some of the upper units.

To experiment and provide additional habitat, pumps were installed this year in Sheppard, Woods and Wyasket Bottoms. The Wyasket pump, a 10-inch vertical pump with turbine type impellers, was acquired with the Bastian property in Leota Bottom in 1961. The pumps in Sheppard and Woods Bottoms were portable centrifugal pumps made by Crisafulli Pump Co. See Section III A for details on these pumps and their installation.

The pump in Sheppard, a 16-inch Crisafulli, was started March 27. Its output was measured at 8.3 c.f.s. against about a 12-foot head. This water was taken by canal into an existing "sump" in the bottomlands (see cover photo). It made a quick showing, waterfowl were using the new area by the 31st. When filled, the pond covered approximately 300 acres with the deepest water at three feet and with an average depth of 12-18 inches. It was a very popular area

with the waterfowl this year, largely replacing the river as the loafing and resting area for birds feeding in the Sheppard farm fields.

The pump in Woods Bottom, powered by the 5-Star Minneapolis Moline farm tractor, was a 12-inch Crisafulli pump with an output of five c.f.s. on a 10-foot lift. The plan here was to flood an area in the west end of the bottom that consisted of old river channels, swales and sand hummocks (see cover photo). The pump was started April 2, creating an area even better than we had hoped for. Approximately thirty surface acres of water made a beautiful nesting area of narrow channels and islands. Though it wasn't needed this year, due to flooding by the Green River, in the future water can be pumped into the big sump in the east end of the bottom from this same pumpsite, if necessary.

The Wyasket pump and motor were installed March 29, but low water in the river and trouble with the pump's electric motor delayed its use. We were finally able to start the pump August 23, and measured its output at 5 c.f.s. The water was impounded against an existing pre-refuge dike (see cover photo). On September 18, the 12-inch Crisafulli from Woods Bottom was moved up to assist in filling the pond. By October 27, the water covered approximately 130 surface acres and pumping was stopped. The north end of the impoundment, where the irregular contours produce a number of coves and sandy islands, looks particularly attractive for nesting.

The Leota unit levels, with two additional periods of pumping, were kept up through early summer. Then in early July the pump's output dropped sharply, and on July 3 it ceased pumping. The pump was pulled and examined. The bottom bearings, which were bronze and water lubricated, had worn through. This allowed the impeller to wobble against the pump bowl, ruining both. Until the end, the pump ran smoothly and gave no outward indication that it had problems. The water lubricated bearings proved to be a poor design for Green River pumping, where the water is so silt laden.

Supplementary pumping in Leota with our 12-inch Crisafulli and a 16-inch Crisafulli borrowed from Browns Park Refuge was practical for only a short period. Without incoming water the Leota unit levels dropped quite rapidly. By early December there was water only in Unit L-10 and the deeper borrow pits of the other units.

Photo No. 1: Maintenanceman Littleton checking rising river levels below Sheppard farm pump in early June. A freeboard of 8-10 feet would be normal here most of the year.

High water in Green River came in late May-early June. On June 2 only 18 inches of freeboard existed at the Leota pumpsite and dozer work was necessary to protect that installation. By the next day, flood waters were entering Sheppard, Woods, Leota and Johnson Bottoms. In Sheppard, water first entered through the Crisafulli pumpsite (see picture No. 2).

In Woods Bottom, water came in through the cut in the lower end that had admitted flood waters the past three years. In Leota, water backed up behind L-10 dike. On June 4, Wyasket flooded from the lower end of the bottom.

On June 5, the water level was still raising, water was flooding into Sheppard and Woods Bottoms in several places. On June 6, the river was still high, but it passed its crest that day and started fitfully dropping back.

Photo No. 2: Flood waters entering Sheppard Bottom through the Crisafulli pumpsite on June 4. See Photo No. 18 for comparison.

Photo No. 3: Only days earlier oil field service trucks used this salt cedar lined dike-road to reach the refuge's one oil well in Woods Bottom. When this photo was taken, however, only carp were using the boulevard for regular travel.

All bottoms except Brennan flooded, and sizeable lakes of water were left in Johnson, Sheppard and Woods. Wyasket's flood waters covered 160 acres, but were quite shallow. Flood waters caused little damage to the refuge's physical plant, but did destroy duck nests in Sheppard and Woods Bottoms.

The refuge holds 300 shares in the Ouray Park Irrigation Company, acquired through land acquisition. This year Ouray Park raised the spillway for Pelican Lake four feet, allowing them to store much more water. Also, this year the company finally succeeded in putting a more-or-less permanent ditch to the refuge. On April 8 the refuge received the first water. The water was stored behind the Sheppard Entrance Road Control Dike, it taking about nine days to fill up behind the dike with six second feet of water being released at Pelican Lake. Water was then allowed to spill under the road and on into the main Sheppard impoundment. Our first turn lasted until May 1. We again got water July 27 and kept it until August 20. On September 16 we received water again and had it until October 5.

By the first week in December when the impoundments froze over, all bottoms except Leota had adequate water. Johnson was still holding 60 acres of flood water. The Wyasket impoundment was holding water well, Sheppard and Woods Bottoms each held 100 acres of water. At year's end birds could find open water in the river ice.

2. Food and Cover

Production of natural food and cover was fairly good this year. Winter accumulation of moisture was supplemented by rain and snow in March, April and May. However, this year, as well as last, these three months saw days and days of dry, westerly winds that sapped soil and plants of moisture. There was good plant production on the bottomlands where denser vegetation helps conserve the soil moisture. In wetter years the semi arid benchlands can boast a colorful display of wild flowers, but this year the wind stole the ground moisture too rapidly and the desert largely kept its monotony. There was good growth on perennial grasses, though, and the range there was in the best shape in years.

Thirty-eight acres of corn produced in 1966 provided feed for waterfowl through the winter. Much of this corn was blown over by gusty winds in October '67. Ducks and geese began landing in it with the first snow and fed there all winter.

Fifteen acres of wheat left standing through the 1966-67 winter were also heavily utilized, primarily by ducks and pheasants. This wheat, Gaines (Blue Tag), was a short stemmed variety with a good tight seedhead that did not shell out. After snow settled around the plants, ducks landed right in the standing grain and could easily reach the seedheads.

Greening up early in the spring were the 34 acres in the farm area planted to pasture and 20 acres of fall wheat planted in '67. This was the first green vegetation available to the birds and it was heavily utilized. Twelve acres of the pasture was established pre-refuge and is predominately Brome Grass with some Alfalfa. The remaining acreage of pasture was planted in 1967 to a mixture of Kentucky Blue Grass, Intermediate Wheat Grass, Brome Grass, Alsike and Strawberry Clovers.

Photo No. 4: Canada Geese finding green browse in a Sheppard Bottom pasture field in late fall.

The entire farm area in Sheppard was leased this year. The cooperator planted 40 acres of corn for the refuge and

irrigated 20 acres of wheat. He planted 58 acres of corn for himself. The wheat made a good crop and 16 acres of it were mowed in October and November. The farmer harvested his corn, leaving much good feed in the stubble. In December, 650 geese and 10,000 ducks were feeding in these fields.

There was good production of aquatics this year. Leota continued to show an abundance of aquatic growth. Units L-7, L-8, L-9 and L-10 had good stands of Smartweed (Polygonum coccineum). Sago Pondweed (Potamogeton pectinatus) was observed in L-1, L-2, L-4 and L-6. Wild Millet (Echinochloa crusgalli) was abundant in the margins of most Leota units. This plant grows readily in the area wherever there is moist soil. It was plentiful this year in the farm fields, around the Sheppard impoundment and in Woods Bottom. Water Plantain (Alisma geyeri) was abundant in some shallow water areas and on mud flats in Leota and Sheppard. Hardstem Bulrush (Scirpus acutus) transplanted along the dikes in Leota last year reproduced and spread.

The breakdown of the Leota pump in July reduced the utilization as food of aquatics there. Much of the Smartweed was high and dry before it matured. Sago and other edible submerged aquatics were left to dry on mud flats. As water levels dropped; algae growths proliferated, water quality diminished and so did aquatic vegetation.

Woods Bottom once again yielded excellent stands of Smartweed. In years past much of this fine waterfowl forage went unutilized because it was left on dry ground by receding water levels in the fall. This year spring flood waters left such a high level and the summer was so mild that there was plenty of water left in the fall when seedheads matured.

II. WILDLIFE

A. Migratory Birds

1. Waterfowl

Once again this year flocks of Canada Geese and Mallards overwintered on the refuge. At the year's beginning, 300 geese and 4,000 Mallards found open water in the Green River ice and food in the Sheppard grain fields. Their numbers decreased to 185 geese and 2,500 ducks by the end of January and to 180 and 1,800 by March 1.

The earliest spring migrants were noted in the first week in March. There was some open water in Leota by then and

ten Gadwall, 70 Pintail, and 20 Green-winged Teal showed up to use it. On March 3, two juvenile Swans, assumed to be Whistlers, were seen in Leota; they stayed there for three weeks. The spring population peak was hit the third week in March with the two Swans, 182 Canada Geese, one Snow Goose, 7,495 ducks and 20 Coot. Four Common Mergansers were seen in the river on March 13.

The additional water in Sheppard and Woods Bottoms was not available early enough to influence the goose nesting. Goose production was down on the refuge this year; only ten nests were found as opposed to last year's 16. Last year 70 goslings were raised, whereas there were only 40 this year. The reason for this is unknown. There were as high as 190 birds on the refuge in early March, but most of the nesting age adults moved off to nest. We hope to make the area more attractive for goose nesting by making nesting islands in the Leota and Sheppard impoundments this winter.

Photo No. 5: This skunk died within two feet of the fake nest where he found the strychnine dosed egg. A goose was nesting at the time on the little peninsula (see arrow) in Unit L-8.

Duck production was up. A total of 995 ducklings were raised this year; there were 400 in 1967. Gadwall young were most numerous with 310, then Mallard - 225, Pintail - 175, Shoveler - 100, Blue-winged Teal - 95, Green-winged Teal - 60, and Ruddy - 30. Duck production could have been greater this year. The (natural) flooding of Sheppard and Woods Bottoms in early June destroyed an undetermined number of nests around those newly formed impoundments. The predator control program (in cooperation with Wildlife Services) was intensified this year to cut down on that source of mortality.

Waterfowl numbers built up in late August to 300 Canada geese, 2,860 ducks and 1,300 Coot. Their numbers continued to increase to a September 25 total of 350 geese, 5,244 ducks, and 1,700 Coot -- a mid-fall peak for ducks and Coot. Goose numbers continued to rise, to a mid-November high of 710 birds. This year, as last, duck use stayed down until the first of December. Then, as other water in the Basin began to freeze over, ducks, primarily Mallards, began to concentrate on the refuge. By mid-December, 650 Canada Geese, one lone Snow Goose, 10,000 Mallards, 300 Pintail and 25 Gadwall were staying and feeding in Sheppard.

Photo No. 6: A family group of two adult and two immature Whistling Swans. They were part of the more than 200 Swans in Sheppard Bottom in mid-November.

Swan use continued to increase this year. On October 18 there were three Whistling Swans, one adult and two immature, on Unit L-10 in Leota. Because of low water levels, the Swans concentrated on the Sheppard impoundment where there were 221, a refuge record, by November 19. The last of these birds, 68 in number, left the first week in December when Sheppard froze over. There were a total of 5,642 Swan use days in 1968, a good increase over the 3,402 in 1967.

Duck use days were down from last year, see Table 2. Loss of the aquatic feed in Leota may have had an effect on the length of stay of some birds. However, the major difference seems to be in that the large fall concentrations in Sheppard came later this year and left earlier.

A snow storm on December 19-20 signalled winter to some of our waterfowl. At year's close the refuge population had dropped to 353 geese, 2,000 Mallards, 25 Gadwall and 25 Pintail. Apparently most of the 8,000-odd ducks that left here went north, not south. On the 21st waterfowl hunters and landowners above Myton, Utah (30 miles northwest of the refuge) reported a large flock of Mallards that arrived from the east. The birds found open water there in spring fed creeks and ponds.

2. Cranes

The first Sandhill Cranes to alight on the refuge were a flock of 100 on March 11. Then over a period of about two weeks several groups came and went from Leota Bottom, as many as 250 being seen there at once. The last flight of 175 was seen March 25.

On September 24, the first crane music of fall was heard as a flock of 30 dropped in on their way south. Then on October 2, 350 bugling Sandhills congregated in Leota, primarily in Unit L-8. This was a record number for the refuge. The birds found the Sheppard wheat field to their liking and about 100 stayed there for several days. Three Sandhills, two adults and a colt, landed in the farm area on December 6 and stayed until the 12th; a rather late and long stay for the birds in this area.

3. Mourning Doves

The first three doves of the year were noted in Leota on April 17. The birds reached a peak of 2,500 in late July-early August. The first two weeks of August brought almost

Table 2.

WATERFOWL USE DAYS

1963 - 1968

	January-April			May-August			September-December			Totals		
	Swans	Geese	Ducks	Swans	Geese	Ducks	Swans	Geese	Ducks	Swans	Geese	Ducks
1968 -	42	18,851	369,164	0	8,309	161,283	5,600	55,426	512,018	5,642	82,586	1,042,465
1967 -	0	18,977	254,505	0	12,754	170,184	3,402	44,856	727,496	3,402	76,587	1,152,185
1966 -	84	16,093	34,426	0	9,335	29,647	91	24,587	322,757	175	50,015	386,830
1965 -	0	10,252	33,059	0	12,684	42,511	294	30,982	290,437	294	53,918	366,007
1964 -	0	1,169	70,658	0	574	11,753	0	6,185	126,110	0	7,928	208,521
1963 -	0	504	21,623	0	952	9,429	0	8,610	211,517	0	10,066	242,569

daily showers and temperatures for the entire month were well below normal. This combination seemed to disagree with the dove population; there were less than 400 on the refuge by the opening of dove season on September 2. Dove hunters had to really work for what little shooting they got in the area this year. The refuge was not open to dove hunting.

Photo No. 7. Avocets and Black-necked Stilts in the east corner of Unit L-8. These birds nested on the small "islands" in the background. The shallows of this unit were a favorite of many of the wading and shore birds.

4. Other Waterbirds

The first shorebirds of the year were three Killdeer seen in Leota Bottom March 22. They were followed closely by Pied-billed Grebe, Eared Grebe and Great Blue Heron. Other waterbirds present at same time of the year were Western Grebe, Snowy Egret, Black-crowned Night Heron, Glossy Ibis, Long-billed Dowitcher, Sandpipers, Western Willet, Long-billed Curlew, Marbled Godwit, Avocet, Black-necked Stilt, Wilson's Snipe, Wilson's Phalarope, California Gull, Ring-billed Gull, Franklin Gull, Bonaparte's Gull, Forester's Tern, and Black Tern. One Double-crested Cormorant stayed

in Leota Bottom most of the summer. Killdeer, Avocet, Black-necked Stilt and Eared Grebe nested here this year. Great Blue Heron nest in the area, but there were no known nests on the refuge.

New water areas and the receding unit levels in Leota made attractive habitat for many of the shorebirds. Flood waters brought Carp and other fishes to the bottoms, attracting as many as 40 Great Blue Herons.

B. Upland Game Birds

1. Ring-necked Pheasant

The spring crow count indicated an index figure of 500 birds on the area. Based on a sex ratio of one male to three females and brood counts, an estimated 500 young were produced. For the second year, the refuge was open for hunting of pheasants. See the Public Relations section for results of the hunt.

2. Other Game Birds

One Chukar Partridge was seen in early May, near the dugway between Sheppard and Leota Bottoms. No California Quail were observed on the refuge; however, they were seen and heard several times east of the river, just above Ouray Village.

C. Big Game Animals

1. Mule Deer

There were approximately fifty deer on the area at the beginning of the year. The winter was not particularly harsh and deer seemed to come out of it in good shape. The first red, spotted fawns were seen in late April. By fall there were about 75 deer on the refuge. Once again, the area was open for the deer hunts, see the Public Relations section for the results.

At year's end, 49 deer were actually counted, so the refuge population is probably 60-75 animals.

2. Antelope

It seems that we were overly pessimistic about the antelope in last year's report. There had been no antelope sightings on the refuge in the previous two years and it seemed as if perhaps the oil field activity east of the river had permanently altered their range. Then in September a group of nine animals were seen in Wyasket for several days. Later, in October, a herd of 40 head was seen in the same area.

D. Fur Animals, Predators, Rodents and Other Mammals

Beaver are still plentiful along the river within the refuge. Their workings and trails along the river's banks and on its islands are readily evident. They tunnel into the river banks, sometimes building a typical beaver house of mud and sticks over the entrance. Only one beaver interferred with refuge operations this year and his interference was minor. He had to be discouraged from trying to keep the outlet of the Main Drain Canal in Leota open at a time when we were wanting to block the outflows of that canal. We made a request of the state to have the river closed to beaver trapping this year. However, there was a misunderstanding, and a trapper was allowed to move into the area. He took a few beaver before the proper action could be taken and his trapping activities stopped.

Muskrats have become well established in Leota and Woods Bottoms. In Leota there was some dike damage this year and some roadway repair was necessary where the dike tops collapsed into their tunnels. There are probably 75 muskrats in Leota and a like number in Woods Bottom. A few of the critters were also seen in the Sheppard impoundment.

A Marmot was seen several times near the Leota-Sheppard dugway in late April. This critter, often called a rock chuck, seemed to be quite a distance from its normal habitat and how it got here is unknown. The White-tailed Prairie Dog is another mammal uncommon on the refuge (but found nearby up on the surrounding benchland). One was seen on July 9 scampering up Main Dike L-9 in Leota, of all places!

Predatory mammals on the area include Striped Skunk, Raccoon, Badger and Bobcat. The skunk is the greatest threat to nesting birds on the area with the Raccoon second. In Utah, Raccoons are found only in this northeastern corner; tough luck for our birds that we are within that range. The Badger has also definitely been identified as a nest destroyer. No direct evidence as yet links the Bobcat to nest destruction as such.

Predator control will be a necessary and continuing program here. This year steel traps, poisoned (strychnine) eggs and drop baits, even cyanide guns ("getters") were used. Maintenanceman Littleton got busy with steel traps in the spring, and Edna Littleton donated chicken eggs. The eggs were injected with a green tinted strychnine solution and labeled "POISON." They were placed in Leota, Sheppard and Woods Bottom in fake "nests" or in abandoned or destroyed bird nests. A local Wildlife Services Trapper came out for a short time and put out a few

each of steel traps, cyanide guns and drop baits. None of the "getters" were even pulled and Magpie appeared to carry away the baits. The steel traps, poisoned eggs and .22's proved most effective. A trapline was also run in the fall. All animals who took poisoned eggs were not as obliging as the skunk in photo 5, and some were never found, making an accurate tally impossible. However, the best estimate is that at least 24 skunks, 6 badger, 3 raccoon, 3 bobcat, and four stray dogs were removed this year.

A family of coyotes was seen several times in Wyasket Bottom. These are the first coyotes known to be resident in the area in several years. Too bad their nightly yipping and howling didn't carry as far as refuge headquarters.

The following tale is told in spirit of fun. Before we get bombarded with notes and quotes about "safety," "hazing," etc., let it be said that all permanent personnel were in Vernal when the incident took place. That's not meant as an excuse, of course, Oh my no; just for setting the record straight.

On October 17 our five temporary employees were returning to work in Leota Bottom after eating their lunch at headquarters. The men in the second truck of the convoy, Joel Parrish and Bob Sissons, spied something that the other three men in the first truck has missed -- a yearling black bear. Now bears are quite uncommon down here on the river, this one being the only one actually sighted here since the refuge was established. To Joel, a usually taciturn, though sometimes voluble man in his 50's, the little fellar looked cute and like he'd make just a fine pet. He stopped the truck and chased the bear up a nearby cottonwood. Now the bear hadn't looked nearly as cute to Bob, and when Joel suggested that he stay there and keep the critter up the tree while Joel went for help — well, the bear just looked plain ugly. But, Joel prevailed, and Bob kept watch at the base of the tree — with an ax, just in case. Why, he just knew that little fellow must have a proud and possessive Mama out there somewhere. Now if a person was a practical joker, or at all inclined that way, wouldn't it have done his heart good to stand off out in the brush there, to thrash about and give off a throaty cough and roar, or two? Huh?

Joel gathered the other three men and they gathered up equipment. Back at the tree Bob was glad to get the company and they planned their strategy. Since it was Joel's idea in the first place he elected, or was elected, to go up and persuade the bear to come down. He climbed the tree with rope in hand to talk to its occupant. Joel and the bear up the tree, four very

helpful kibitzers on the ground offering perfectly good advice through the laughter. Joel kept climbing and talking, and the bear kept climbing and growling and fussing (probably bear talk equivalent to Joel's well chosen words). The bear finally climbed out on a limb, and Joel got above him. He finally succeeded in lassoing a forepaw and began to lower his captive to the ground. He couldn't see the gound because of the tree's leaves, but he got a lot of directions and advice from below. Joel wanted the kibitzers to help the little bear get into the 55-gal. drum, but they weren't too warm to the idea, so it took some doing.

When Joel was told that he couldn't keep his prize, he was rather crushed. He took it gracefully, however, and the accompanying photos show the bear's release. The poor little fellow (it was decided that he was a long yearling) was so frightened by all the strange noises and smells that he didn't want to leave the dark sanctuary of his barrel. All the shenanigans did not completely scare him out of the area, he was seen two days later in Leota Bottom.

Photo No. 8: Ever see such a sheepish looking bunch? Our five summer temporaries are, left to right, Eddie Jensen, Joel (Bear Catcher) Parrish, Howard Neurnberger, Dee Brough, and Bob (Baby Bruin Sitter) Sisson. The bear is in center front.

Photo No. 9: "Okay, little feller, you can come out now. Come on, let by-gones be by-gones. I didn't mean to scare you!"

Photo No. 10: "Now dern it, you git out of there! Go on, Scoot, Shoo!! You can't hibernate in there!"

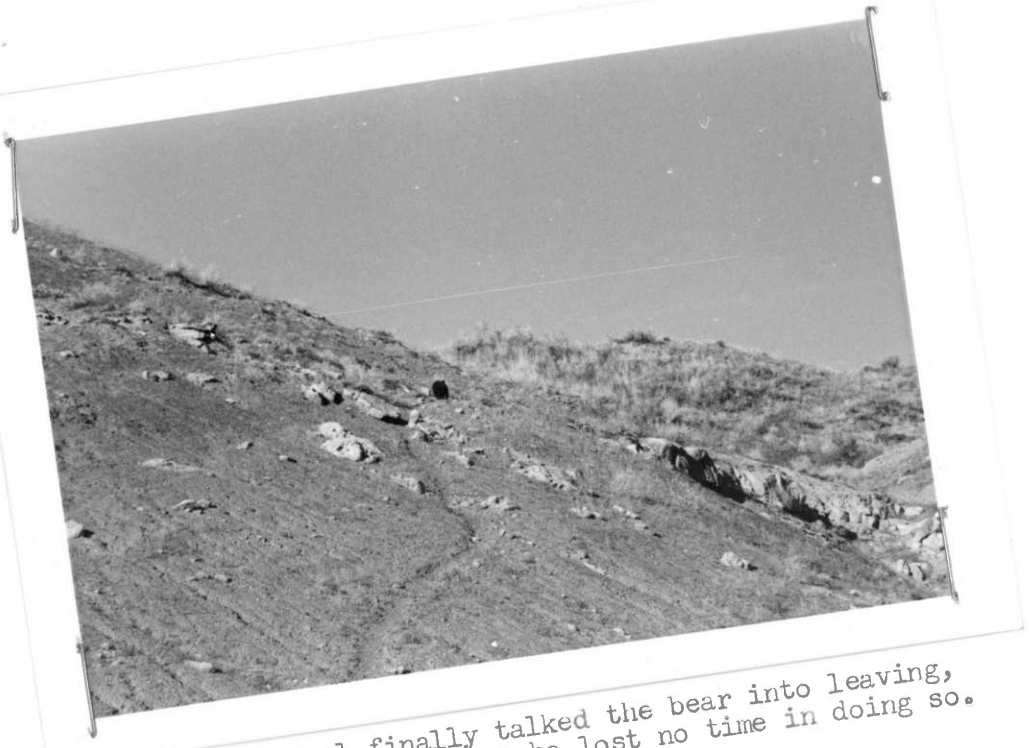

Photo No. 11: Joel finally talked the bear into leaving, and once his mind was made up he lost no time in doing so.

E. Hawks, Eagles, Owls, Crows, Raven and Magpies

Raptors seen on the refuge this year were Bald Eagle, Golden Eagle, Great Horned Owl, Marsh Hawk, American Rough-legged Hawk, Red-tailed Hawk, Sparrow Hawk and Pigeon Hawk (Merlin). The Pigeon Hawk, four of which were seen in Leota for a week in April, is an addition to the refuge bird list.

A total of four Bald Eagles and two Golden Eagles were on the refuge in late March-early April. On March 18, twenty Bald Eagles (15 adults, 5 immatures) were first observed on nearby Pelican Lake. They were attracted to winter-killed fish along the lake's shores, and most of them stayed there for two weeks. On April 7 an adult Bald Eagle with injured left wing was found in Leota. The wing had knitted, but left the bird flightless. Unable to catch food, he was quite weak when found. There were no power lines, etc. nearby, so how he was hurt is a mystery. He was kept in the old goose pen and offered a rabbit a day, which he accepted with gusto. After a week he was turned over to Bill Ritter, GMA, Salt Lake City. At last report he was holding down the job of sole Bald Eagle at the

Tracy Aviary in Salt Lake City. At year's end there were two Bald Eagles and three Golden Eagles on the refuge.

Twenty-five crows, an uncommon bird on the refuge, were present April 12-14. Magpies were present throughout the year, being most plentiful during the summer months. They were responsible for some nest destruction. Poisoned eggs and drop baits killed an undetermined number of the birds.

F. Other Birds

Audubon's Warbler and Eastern Bluebird were observed during the spring. These are first sightings for the refuge.

G. Fish

With the June flood waters came carp and probably other species as well. There were already carp in the Leota units. Great Blue Herons found good fishing in Leota, Sheppard, Woods and Johnson Bottoms. One curious incident concerning carp took place in Leota in early July when the 12-inch Crisafulli pump was used to pump from the Main Drain into Units 8 and 9 (see Photo No. 20). Carp in the units tried to swim "upstream" on the incoming water and their frantic efforts left many of them stranded on the bank (see Photo No. 21). Over 2,000 fish were hauled away from the site.

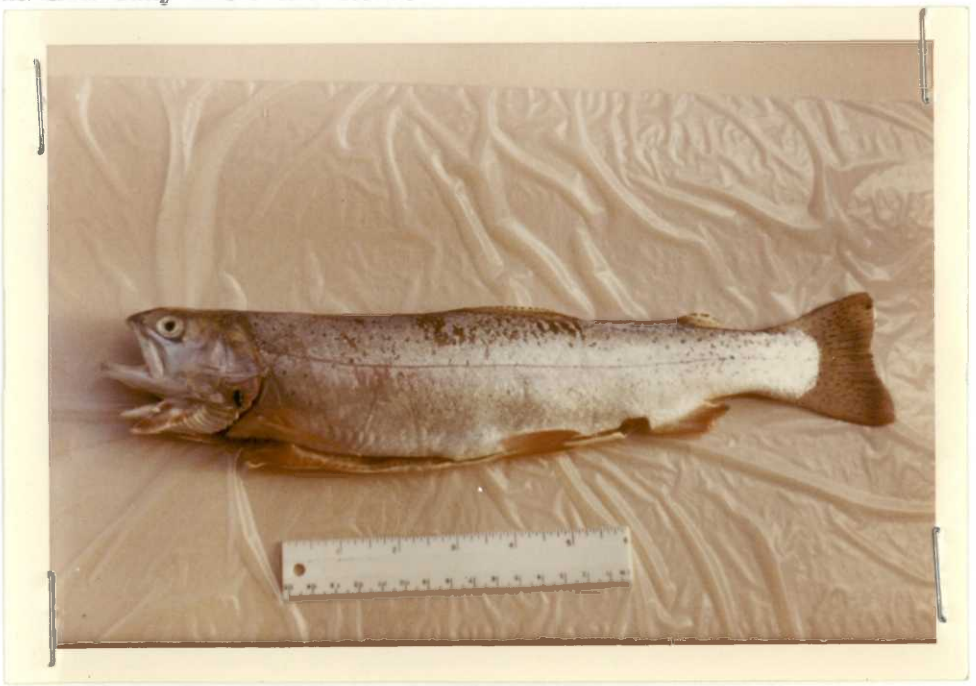

Photo No. 12: A 14-inch Curthroat Trout caught in Green River waters.

On October 13, Assistant Manager Nicely was checking some fishermen just below the Leota-Sheppard dugway on the river when one of them caught and landed a 14-inch Cutthroat Trout (Photo No. 12). He was rather disgusted with his catch and quite glad to give it away! Seems he had fished the Uintas all summer and had caught -- and eaten -- trout until he was sick of them. He came down to the Green River to try and catch a Catfish and by golly, here he was catching trout again! His "trash fish" was a rare catch indeed. Maintenanceman Littleton, who has lived down on the river for twenty years, could not recall another trout ever being taken from the river here. The fish was quite slender, weighing just a pound, and couldn't have been thriving in the turbid river.

Photo No. 13: Here's one for you Daniel Booner's. Who or what made this squiggly track? Snake with legs? UWO? .....

Photo No. 14: The tracks were followed close to this hole. In the mouth of the opening was a freshly killed rabbit. Our theory? A Bobcat carrying its kill back to the den, let the legs drag in the dirt.

H. Reptiles
Nothing unusual to report.

I. Disease
Some disease, possibly Tuleremia, struck the Jackrabbit population this fall. About fifteen Jackrabbits were found dead in the Sheppard headquarters-farm fields area. No dead Cottontails were found.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

1. Contracts
No contract work was undertaken this year.

2. Water Development
At the first of the year, with Master Plan development seemingly stymied, Leota Bottom was the only area with any waterfowl habitat development whatsoever. Much of this year's work program was aimed at producing more habitat area with the little money, manpower, etc. available.

Such indoor work as was possible was accomplished during the winter months. Pump and motor stands and support beams for the upper Wyasket pump were fabricated in the refuge shop. These were installed on March 6 on an old existing bulkhead which had been reinforced with concrete the previous fall. The pump and motor were mounted on separate stands, with the pump stand being hinged at the back so the pump could be tipped up above the river ice during the winter months (Photo No. 16).

Photo No. 15: The Wyasket pump bulkhead seen during the June high water. The pump, a 10-inch turbine unit with right angle drive, and the electric motor (temporarily removed) are mounted on separate stands.

The pump itself, one of the 10-inch turbine units from the Bastian property in Leota, was installed in late March. At that time the river was too low for pumping at the site. When we finally were able to try the pump, the 25 h.p. electric motor was found to be faulty and had to be shipped off for repairs. After some delay the motor was repaired and returned, but when installed it proved to be inadequate to turn the pump without overloading the motor. This particular pump, whose original job it had been to lift water 40 feet in Leota Bottom, was apparently equipped with a high lift impeller, requiring more horsepower. A 50 h.p. motor was procured and finally

hooked up on August 23. The pump's output was measured at 5 c.f.s. It was kept at its job until October 27 at which time there was over 130 surface acres of water backed up against the dike in upper Wyasket. The installation was secured for the winter, with the tipping of the pump working perfectly.

The Wyasket pump secured for the winter. The pump itself is tipped up to protect it from ice damage. Note the difference in water levels here and in Photo 15.

The installation of a turbine pump in Wyasket was possible because of the existing bulkhead and existing electric power source there. In Sheppard and Woods Bottoms, no such structures existed. In Woods Bottom the situation was further complicated by the fact that the refuge doesn't own the land there. It is leased from the Ute Indian Tribe and there has been some question as to how much permanent development work should be undertaken.

With a desire for having the best of two possible worlds--putting some water in these bottoms without going to a permanent installation--a different type of pump was sought. The pump made by the Crisafulli Pump Co., Glendive, Montana, was the one finally decided on (Photo 17).

This is the Crisafulli Pump, available in sizes from 2" to 24". The design and principle of all the pumps are basicly the same. The pump looks like--and works like--the blower fan on an evaporative cooler. The unit is simply backed into water above the intake ports (front and rear around the drive shaft). The squirrel-cage-like impeller pushes water through the discharge port (left side of pump) and on through flexible rubber tubing to the ditch heading.

The drive shaft is supported on either side of the pump by water lubricated hard rubber bushings. The pump, which is designed to turn at 550 r.p.m., is highly portable and can be powered with any kind of motor. It was originally designed by a truck farmer for pumping in the Yellowstone River, with its widely fluctuating water levels. It isn't easily jammed, just about anything that will enter the intake port will pass through the pump. It disassembles easily, is extremely uncomplicated and doesn't require an expert for maintenance.


CRISAFULLI PUMP CO.,
P. O. BOX 1051
GLENDIVE, MONTANA

Two Crisafulli pumps, a 12-inch and a 16-inch, were bought. For "pump sites" sloping trenches were cut in the river bank in Sheppard and Woods Bottoms with the refuge Link Belt dragline. The 12-inch pump in Woods Bottom was driven by the power takeoff of a diesel farm tractor and the 16-inch Sheppard pump with a propane stationary motor (Photo 18). The 16-inch pump was started March 27 and the 12-inch on April 2, pumping 8.3 and 5 c.f.s. respectively.

Photo No. 18: The Sheppard Bottom 16-inch pump in operation. The pumpsite is merely a sloped trench in the river bank. The flexible discharge is designed to withstand pressures for a 20-foot lift. See Photo 2 for a look at this site during June high water.

The 12-inch pump in Woods Bottom was used there only in April and May. It was planned to hold water in the west end of Woods Bottom (cover photo) through nesting and brooding seasons and then divert the water to the large sump in the east end if need be, letting the west end dry out. The June flood changed all this, inundating the nesting area and leaving sufficient water in the east end to last the year. So, the 12-inch pump was freed for work

elsewhere. In July it was used for emergency pumping in Leota from the Main Drain into Units L-8 and L-9 (Photos 19-21). At that time the river was high enough so that, with the river front flap gates propped open, water would run up the drain canal to supply the pump. This pump was also used in late September-early October to assist with the filling of the Wyasket impoundment.

Photo No. 19: Five spaced sticks of dynamite placed under water in the berm of the Leota Drain Canal to blast out a sump for the .....

.....12-inch Crisafulli pump. This same pump and tractor were used in Woods Bottom. Oneof the beauties of this pump is its portability and versatility. Here, driven by the tractor power take off, it is being used to.....

.....put water into Unit L-9. Note the Carp stranded on the bank as they tried to swim and leap "upstream." How about refining this as a method for removing undesirable Carp from impoundments?

The Sheppard 16-inch pump was used throughout the pumping season to add water to the Sheppard impoundment. We had quite a bit of trouble with that installation and several breakdowns, primarily due to the improvised nature of the set up. If, in the future, electric power could be put to the pumpsites, it would eliminate most of the problems there.

(A request has been submitted to R.O. and W.O. for a power line to the Sheppard and Woods Bottom pump sites. Whatever happened to it? H. J. Johnson, Refuge Manager.)

3. Bank Stabilization

As mentioned earlier, the Leota pump went out in early July. A decision was made to go to another type pump installation there, combining this with some previously planned bank stabilization. The old pump site was located in a curve where the river bends around an island (cover photo). The cutting action of river water and ice was slowly, but surely, eroding the river bank above and below the pump, thus the need for stabilization.

Photo No. 22: The old inlet structure for the Leota Pump.

The river front inlet structure for the pump had never been satisfactory. Instead of being set flush with the bank, it was set out in the river on loose fill dirt. By this spring, it had separated from the underground inlet pipe, broken loose from some of the deadmen anchoring it to the bank, eroded, settled, collapsed and just generally gone to hell (Photo 22).

The first steps were to remove the old inlet structure (Photo 23) and straighten the river bank. This was accomplished with the refuge dragline in late April. All materials for the project--pilings, cable, wire, etc.--were on hand by mid-June, but actual construction work had to wait for lowered river levels in late August. All work on the project was by force account.

Removing the old inlet structure with the refuge dragline.

In late August the work consisted of preparing the site with the D-6 Dozer--removing tree stumps, leveling the bank top, etc. --and sloping the bank with the dragline. Then in early September the trench for the deadman was cut with the dragline and a special trenching bucket (Photo 24).

Photo No. 24: Dragline digging deadman trench with trenching bucket. This bucket, with an overall width of 16 inches, was made from a 3/4 yard bucket, cut down and rewelded in the refuge shop.

The deadman trench was 18 inches wide and four feet deep. Sections of one inch reinforcing rod were welded end-to-end the length of the trench and hooks made from ½-inch reinforcing rod were welded on at 15-foot intervals (Photo 25). Then a total of 52 cubic yards of concrete was poured around the one inch rebar to a depth of nine inches in the bottom of the trench (Photo 26). The eyes of the hooks were left open for later attaching of cables to the deadman and pilings. After the hook locations had been marked with pegs and the concrete had cured, the trench was backfilled.

Photo No. 25: The deadman trench ready for concrete, showing the one inch rebar with a hook welded to it. The rebar is suspended by a wire from the metal fence post lying across the trench.

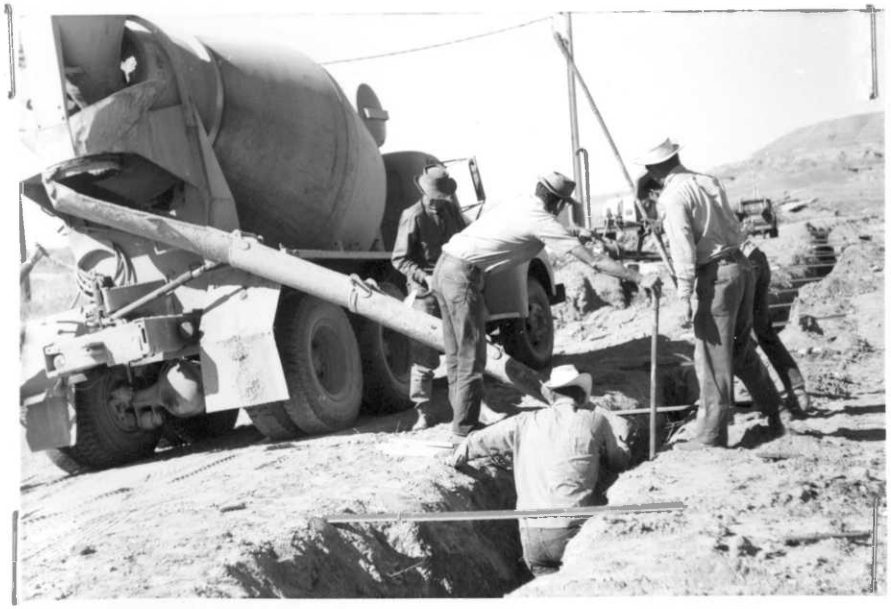

Photo No. 26: Pouring concrete for the deadman. The old Leota pump sump is located at the base of the power pole in the background.

Eighteen foot creosoted pilings were used for the job. They had to be sharpened on one end and shaped on the other to fit the driver cap of the pile driver hammer. On October 3-4, Cooney & Balleck Construction Co. of Craig, Colorado, drove the pilings (Photo 27). They were spaced fifteen feet apart, with eleven feet of piling in the ground and seven feet above ground. Near the location of the old pump, a jog or "dog leg" was made in the piling line for construction of the new pump bulkhead. Creosoted 4" x 12" timbers were secured inside the piling dog leg to form the walls of the bulkhead (Photo 28). The last piling on either end were set back in the bank for protection from washout. A shale ledge was struck on the upstream end and some pilings could not be driven the full eleven feet.

Photo No. 27: Rented piledriver unit driving pilings. Note how bank has been dressed and sloped.

Photo No. 28: The completed piling line. The dark shape directly beneath the dragline cab is the pump bulkhead with timber walls in place. A 24-inch Crisafulli pump is scheduled for use from that bulkhead.

Next, ten lengths of ½-inch galvanized steel cable were stretched against the pilings and stapled at intervals of six and twelve inches (Photo 29). A layer of V-mesh fencing was stretched and stapled and inside that, a layer of ¼-inch mesh hardware cloth (Photo 30). As soon as the wire was up, trenches were dug back to the deadman with a rented tractor-mounted backhoe. A length of ½-inch cable was stretched from the deadman to the top of each piling (Photo 30).

The cable trenches were backfilled. A 12-yard dump truck was rented and it, and the refuge's dump-stake, hauled gravel (loaded from a nearby pit with the refuge dragline) to fill in behind the piling (Photo 31). The gravel was leveled up with dozer and grader. A 4.5 cubic yard cap of concrete was formed and poured over the pump bulkhead. Thus ended this year's work on the project. We hope to be able to adopt a 24-inch Crisafulli pump for use there by next spring.

Photo No. 29: Cables stretched to the pilings to support.....

Photo No. 30: .....the V-mesh wire and hardware cloth. The cables are attached back to the deadman.

Photo No. 31: Placing gravel fill behind the pilings.

4. Earthwork, Ditching and Roadwork

The refuge's dozer and motor grader were used in making about one mile of road in Woods Bottom, from the main road to the Crisafulli pumpsite.

The Cat-12 grader was used to made and clean ditches for the new pumps in Sheppard and Woods Bottom. It also was used to improve an existing ditch for the pump in Wyasket. The D-6 Dozer was used to reroute the trail through lower Sheppard Bottom, to put it on higher ground.

Badly eroded places in the Leota West Canal and the Sheppard canal were riprapped with large rock. A wire crib was built and filled with rock to protect the takeout structure on the L-8 Feeder Canal.

The refuge dragline was used to clean collected sediment out of the Leota desilting basin. The 24-inch C.M.P. line which ran from the old Leota pump to the desilting basin was dug out with the dragline and the salvageable sections relayed to the new bulkhead.

Maintenanceman Littleton kept the refuge roads in good shape, he bladed all main roads at least twice. Weeds on dike tops in Leota were mowed with the roto cutter in the summer after nesting.

5. Equipment and Facilities

A major overhaul of the Model 75 Link Belt Speeder Dragline, transferred from National Elk, was accomplished. This has added a very useful piece of heavy equipment to our stable. Brakes were fixed on the Cat-12 grader. On the D-6 dozer, the starting motor was worked on and a master clutch assembly was installed. Ignition points and a started were replaced on the Chevrolet dump-stake. A 2½-ton GMC stake truck transferred to Browns Park from Bear River was repaired (replaced windshield, body work, fixed and covered bed, built rack, painted cab, etc.) in the Ouray shop.

A two-wheel trailer was built for mounting of the propane motor for the Sheppard pump (Photo 18). A detachable A-frame was built for use with the front-mounted winch on the Chevrolet 4-wheel drive pickup. This gadget has proven to be one of the handiest pieces of equipment we have. It has been used thus far to do jobs ranging from pulling fence posts to lifting weights of almost a ton.

Electric wiring was extended to the oil and paint storage building. A 240-volt electric heater was bought for the building and a paint storage cabinet was built. A 7' x 10' metal building was erected behind Quarters 56 and 57 for storage of lawn tools, fire hoses, etc.

The two Crisafulli pumps were repaired, greased and re-painted. A 230-amp. welder was procured for the shop.

6. Fencing and Posting

Two miles of two strand barbed wire fence were built atop the bench over Leota Bottom. It will serve as a drift fence to keep cattle from dropping off the bench into Leota Bottom. A 12-foot cattleguard was installed where the fence crosses the Leota-Sheppard road.

A cooperative arrangement resulted in a fence and cattle-guard separating Woods and Wyasket Bottoms (Grazing Units G-4 and G-3). The refuge bought the cattle guard, the Ute Indian Tribe installed it and a grazing permittee built the short section of fence. Another grazing permittee built a ½-mile partition fence across the Sheppard Farm Fields, so that he can put cattle in the fields without bothering the refuge's corn crop.

There were the routine repairs and maintenance on the farm field outer fences.

All refuge boundary signs were checked and replacements were made as needed. Two 4' x 4' boundary signs were made and one was placed at either end of the refuge on the river (Photo 32.) The purpose of these signs is to let boaters know when they enter refuge waters.

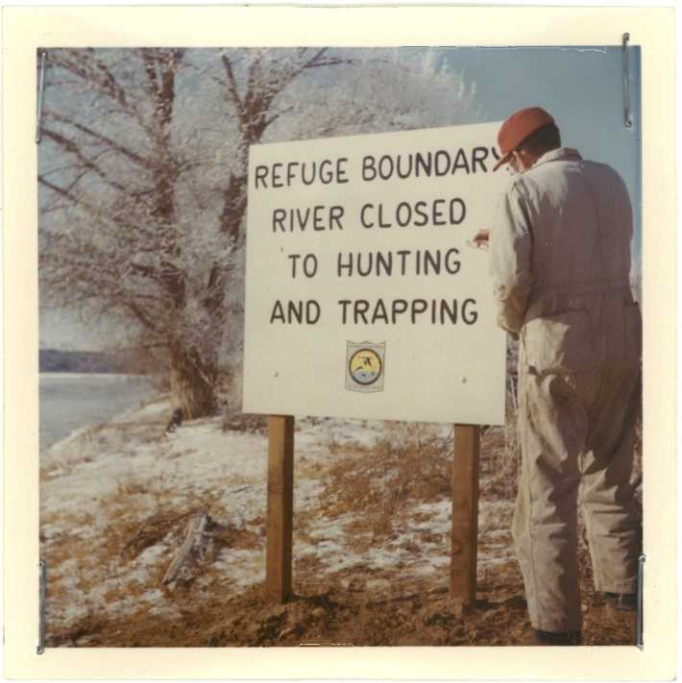

Photo No. 32: Maintenanceman Littleton putting the finishing touches on one of the new refuge river boundary signs.

B. Plantings

1. Marsh and Aquatic Plantings
   None.

2. Trees and Shrubs
   None.

3. Upland Herbaceous Plants
   None.

4. Cultivated Crops

The entire farming operation was leased out this year; refuge personnel took no part in the farming. The lease, which went to Mr. James Wilcox of Roosevelt, stipulated that he plant and irrigate forty acres of corn for the refuge, irrigate our twenty acres of fall wheat (planted in 1967), and irrigate the 34 acres of pasture. He was entitled in return to raise his own crops on the remaining acreage and to take all hay from the pasture land at $6.66 a ton. All the refuge was to provide was water and advice, if wanted.

Wilcox put all his eggs in one basket and planted 68 acres of corn for himself. He did not heed some of Lew Littleton's advice (after all, Lew had only farmed the ground for 20 years) and tried some things that just wouldn't work on this ground. Also, spring was late this year and August was cold--a bad combination for corn.

The corn crop was a poor one. The farmer realized only five tons of shelled corn from the fifteen acres that he was able to harvest. The refuge corn was little better, probably averaging fifteen bushels to the acre. This is a far cry from the productivity the land demonstrated when it was being farmed by refuge personnel. However, this way is also much cheaper than previous years.

The fall wheat matured and produced a fair crop, averaging about forty bushels per acre. Sixteen acres were mowed in October and November for waterfowl. Four acres were left standing to feed next spring's migrants.

The 22 acres of pasture planted last year looked good for a first year crop. These pasture fields, when kept well clipped, should provide plenty of green browse for our present populations of waterfowl.

Waterfowl made good utilization of the grain fields this fall. Much of the farmer's corn crop was not worth harvesting, but still contained a lot of corn. Fall wind blew much of this over and harvesting scattered still more. During December, 10,000 ducks and 650 geese were landing and feeding in these fields. The wheat field attracted many birds, including Sandhill Cranes, in October and November. We were forced to turn a grazing permittee's cattle into this waterfowl paradise in order to drive the birds out of the area and quiet charges of short-stopping birds enroute to Arizona and California.

C. Collections and Receipts

1. Seed or Other Propagules

Ten pounds of Smartweed seed were collected for Browns Park Refuge.

2. Specimens

None.

D. Control of Vegetation

1. Mechanical

Weeds on Leota dike top were mowed in the summer, after nesting.

2. Chemical

This year a chemical control program on cattails was instituted in Leota Bottom. The chemical used was Dowpon. The solution used was six pounds active ingredient (7 actual pounds of Dowpon), two gallons of diesel, and a pint of detergent as an emulsifier--all in 48 gallons of water. The solution was dispensed with a 50-gallon capacity Hudson sprayer, mounted in either a boat (Photo 33) or in a trailer pulled behind a tractor.

Photo No. 33: Temporary employees Dee Brough and Howard Neurnberger spraying cattails with Dowpon in Unit L-10.

About 200 acres of cattails in and around Units L-4, L-5, L-6, L-7, L-8, L-9 and L-10 were treated. Much of the treated plants was in scattered clumps, making acreage figures approximate. The treated plants turned brown in 7-10 days, giving a very high percentage of foliage killed. It remains to be seen whether the Dowpon killed roots as well. Since the Leota units have dried out, there is a high potential for seeding all those exposed mud flats with the seed that did manage to mature in the bottom this year.

E. Planned Burning
Only burning was that of tumbleweeds in ditches and canals.

F. Fires
There were no fires on the refuge.

IV. RESOURCE MANAGEMENT

A. Grazing

Table 3.

Permittee	AUM's	Acres Grazed	Location	Effective Date
Indian Trail Ranch (Permit OUR-15)	220, on and off basis	3,000	Unit G-5A	3/25/68 to 5/5/68
Indian Trail Ranch (Permit OUR-16)	220, on and off basis	3,000	Unit G-5A	10/15/68 to 5/5/69
Gale Wilkins (Permit OUR-17)	420	3,665	Units G-1, G-2, G-6	11/1/68 to 3/31/69
LaRue Pickup (Permit OUR-18)	250, on and off basis	2,820	Units G-3 and G-4	10/1/68 to 3/31/69

B. Haying
One cutting of hay was taken from the Sheppard fields by our coop farmer. He removed 26.75 tons which cost him $178.00

C. Fur Harvest
As mentioned earlier, there was some beaver trapping on the river within the refuge. The number of beaver taken is not known.

D. Timber Removal
None.

E. Commercial Fishing
None.

F. Other Uses
This year Gulf Oil Corporation developed the two water well sites in Wyasket Bottom that were decided on last year after seventeen test holes were drilled. The pumps were elevated above future water levels. Gulf also improved and graveled about a mile of the old pre-refuge dike there, for roads to the wells.

V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

None.

VI. PUBLIC RELATIONS

A. Recreational Uses
Following is a table showing visitor use figures abstracted from this year's Monthly Public Use Reports, Form 3-123:

Table 4.

Activity	Code	Visits for the Year: Total Number	Visits for the Year: Total Hours
Hunting: Big Game	01	235	855
Upland Game	02	247	967
Bow	04	41	184
Fishing: Warm Water	07	72	365
Wildlife Observation	11	585	1620
Wildlife Tours	15	435	1480
Wildlife Scenic Veh. Rts.	16	175	340
Camping (Related to above)	17	84	992
Picnicking (Related to above)	18	70	70
Miscellaneous Wildlife (Non-hunters, accompanying hunters)	20	60	240
Non-recreational Use (Inspections, etc.)	32	12	38
Actual Visits	33	1405	
Peak Load Day	34	160	
Miscellaneous Non-Wildlife (Cooperative Farming Grazing Permittees Oilfield Workers Service Calls Material Delivery)	35	390	1200

There are, of course, no figures of past years from which to make comparisons. However, a few conclusions can be drawn. We had many more people on the area, just to observe nature and wildlife, than in any year in the past. For one thing, 435 people, mostly students, were given tours of the refuge (Photos 34 and 35). Another 175 people came out and drove around on their own. The number of hunters remained approximately the same as last year. Camping and picnicking remain almost solely by-products of hunting.

The refuge has no facilities for visitor accommodations--no rest rooms, camping or picnicking areas, etc. The gravelled dike network in Leota does make it possible for visitors to drive through our one completely developed area and observe waterfowl and other wildlife close at hand. This visitor use is undoubtedly a self perpetuating and snowballing thing, within reason. For example, the more school kids who see the refuge on a class field trip, the more often one of them will convince Mommy and Daddy to drive back out on a Sunday. The same thing is true of hunters; they discover the area hunting and come back later just to look.

Photo No. 34: A group of school kids on a class field trip out for a look at the refuge. They have just been given a talk on the refuge and its wildlife and are all piling in one bus for a tour.

Photo No. 35: A summer science class up on the bluffs overlooking Leota Bottom. The boys in the group are picking up the rocks to throw and the horned lizards to take home -- and their teachers are telling them to place said objects right back where they found them.

B. Refuge Visitors

H. M. Boeker	2/2	Div. Wildlife Services, RO U. & O. Wildlife Survey
Jerry O. Ridgway	2/2	Div. Wildlife Services Salt Lake City
H. M. Boeker	3/4	Div. Wildlife Services, RO BLM-Utah Game & Fish Coord. Meeting
Mayo Call	3/4	Wildlife Biologist Utah BLM State Office BLM-Utah Game & Fish Coord. Meeting
Robert L. Means	3/5	Seedskadee NWR Refuge Manager

J. Austin Beard	5/1	Realty Officer, USFWS, RO Albuquerque, New Mexico
A. V. Tunison	5/1	Associate Director, USFWS Washington, D.C.
Wm. T. Krummes	5/1	Regional Director, USFWS Albuquerque, New Mexico
Robert Stephens	5/1	Regional Supervisor Div. Hatcheries, USFWS Albuquerque, New Mexico
Tony Opstedal	5/15	Div. Engineering, USFWS Albuquerque, New Mexico
William Ryan	5/15	Div. Engineering, USFWS Albuquerque, New Mexico
Joseph S. Cordova	5/27	General Services Adm.
John W. Byrn	6/12	BSFW
Clark D. Johnson	6/12	BSFW, Salt Lake City, Utah
Newell B. Morgan	6/12	Refuge Manager Sacramento Refuge Willows, California
Julian A. Howard	7/29	Refuge Manager Wichita Mtns. Wildlife Refuge Cache, Oklahoma
Tom Martinez	8/20	Div. Engineering, USFWS Albuquerque, New Mexico
Robert Thoesen	9/17	Regional Director, USFWS Div. Fish Hatcheries Albuquerque, New Mexico
Tom Reed	9/25	Reg. Engineer, USFWS Albuquerque, New Mexico
R. F. Dittman	9/25	Engineer Washington, D. C.
David Kimbrell	11/12	Div. Realty, USFWS Albuquerque, New Mexico

Merle O. Bennett	11/15	Refuge Manager Seedskadee NWR Green River, Wyoming
B. E. Johnson	11/19	Div. Realty, USFWS Albuquerque, New Mexico
Robert Thoesen	11/26	Regional Supervisor Div. Hatcheries, USFWS, RO
Wm. Stabler	11/26	Div. Engineering, USFWS Albuquerque, New Mexico
Howard Larsen	12/17	Asst. Chief, Fish Hatcheries Washington, D. C.
Bob Thoesen	12/17	Assoc. Regional Supervisor Div. Hatcheries Albuquerque, New Mexico
John Maxwell	12/17	Reg. Supervisor Div. Hatcheries Albuquerque, New Mexico

C. Refuge Participation

During the spring and summer eleven groups of school children and their teachers, totaling 435 people, were given talks on nature and refuge operations and then taken on tours about the area.

Refuge Manager Johnson participated in several Technical Action Panel meetings in Vernal.

Personnel from both Ouray and Browns Park Refuges participated in a Defensive Drivers Education Course presented by the National Park Service, Bureau of Reclamation, FWS and NPS, at Dutch John, Utah on September 27, 1968.

D. Hunting

This was the fourth year that the refuge has been open for rifle deer hunting and the second year for pheasant hunting.

The archery deer season is a separate one, this year lasting from August 24 to September 8. The entire refuge was open to the archers. The hunting pressure was quite light this year, with just a few hunters putting in most of the 184 hours that bow hunters stalked their quarry here. No deer were tagged, though two were known to be wounded and lost. One of the deer,

a nice four point buck shot by Rex Curry of Ft. Duchesne, tried to swim the river after being hit and died mid-river. It was just dusk when the deer went in the water and he was never recovered. Mr. Curry collected a deer on the refuge the past two years, and was the only one to do so.

The general deer season ran October 19-29. Leota Bottom was closed to the rifle hunters. Just about all the profitable hunting was done on opening morning, after that the deer were scarce. About 90 hunters showed up for the opening. A total of 27 deer were known to have been taken, with only ten of these being bucks.

The refuge stayed open for a seventeen day pheasant season this year, November 2-18. Leota Bottom was closed to the pheasant hunters also. Of the rest of the area, 99% of the hunting was done in Sheppard Bottom. Opening morning saw another overcrowded hunting situation, similar to last year. The hunters had a larger acreage of standing grain to wander around in this year, but then again there were more of them than last. That day 130 hunters were checked and they killed 127 birds. Few hunters filled up with the limit of three birds. Hunting pressure was light the remainder of the season and only 35 more roosters were taken. Almost half of all hunters on opening weekend were from the western half of the State.

Photo No. 36: A satisfied customer! On the second day of the season this hunter has his possession limit of six fat cock pheasants.

E. Violations

On the opening day of deer season, October 19, a suspected camp was checked by refuge personnel and four untagged does were found. The assistance of Utah Conservation Officers was obtained and four citations were issued. Each party paid a $25.00 fine in County Court and got to keep his deer, a pretty light penalty.

F. Safety

There were no lost time accidents this year. As of December 31, the refuge had gone 924 days without a lost time accident. The National Safety Council Defensive Driving Course was completed by all permanent personnel with government drivers licenses.

VII. OTHER ITEMS

Assistant Manager Nicely was married February 3 to Nora Howard, daughter of Julian Howard of the Wichita Mountains Refuge.

Many thanks to Manager Johnson and Maintenanceman Littleton for their assistance in editing this thing. Clerk Norma Miracle assisted with the compilation of material and did the typing.

There are 37,000 words worth of photographs with this report. All of them, with the exception of No. 17, which was supplied by the Crisafulli Pump Co., were taken by Assistant Manager Nicely.

"Clyde" and "Nora" departed Ouray Refuge on January 25, 1969 (after completing this report) to assume the duties of Assistant Refuge Manager, Alamose Refuge, Colorado. I think this report well sums up Clyde's personality and ability--willing, witty, cheerful, and competent. He did a fine job while at Ouray and his associates join me in wishing "them" Good Luck in the next assignment.

Refuge Manager

Prepared by:

CLYDE E. NICELY
Assistant Refuge Manager

Submitted by:

H. J. Johnson

H. J. JOHNSON, Refuge Manager

Reviewed by:

Assistant Regional Director-Operations

W E Schmidt

Date: 2-25-69

2/25/69

Reviewed by:

_____

Date: _____

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Ouray MONTHS OF January 1 TO April 30, 1968

(1) Species	(2) Weeks of reporting period 12/31-67-1/6/68 1	1/7-13 2	1/14-20 3	1/21-27 4	1/28-2/3 5	2/4-10 6	2/11-17 7	2/18-24 8	2/25-3/2 9	3/3-9 10
Swans:										
Whistling										2
Trumpeter										
Geese:										
Canada	300	250	193	185	185	180	180	180	100	120
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	4000	3500	2500	2500	2500	2000	2000	2000	1800	1000
Black										
Gadwall										10
Baldpate										
Pintail										70
Green-winged teal										20
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Ouray MONTHS OF January 1 TO April 30, 19 68

(1) Species	(2) Weeks of reporting period: 3/10-16 (11)	3/17-23 (12)	3/24-30 (13)	3/31-4/6 (14)	4/7-13 (15)	4/14-20 (16)	4/21-27 (17)	(18)	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
Swans:											
Whistling	2	2							42		
Trumpeter											
Geese:											
Canada	190	182	165	90	70	70	50		18,830		
Cackling											
Brant											
White-fronted											
Snow	1	1	1						21		
Blue											
Other											
Ducks:											
Mallard	2170	4500	5000	1125	865	200	125		264,495		
Black											
Gadwall	40	225	348	375	550	670	800		21,126		
Baldpate		50	60	110	230	255	275		6,860		
Pintail	1300	2100	1400	700	270	165	153		43,160		
Green-winged teal	400	400	270	260	150	95	113		11,956		
Blue-winged teal		60	95	60	85	100	120		3,640		
Cinnamon teal		20	70	85	80	60	56		2,597		
Shoveler		60	65	110	180	185	210		5,670		
Wood											
Redhead	10	30	30	45	70	75	100		2,520		
Ring-necked			15	20	35	50	80		1,400		
Canvasback						25	10		245		
Scaup			15	40	105	130	150		3,080		
Goldeneye					1				7		
Bufflehead		350	45	50	25	15			1,295		
Ruddy				10	30	45	70		1,085		
Other											
Common Merganser	4								28		
Coot:	6	20	200	365	1700	2400	2600		52,122		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	42	2	
Geese	18,851	300	
Ducks	369,164	7,495	
Coots	52,122	2,600	

SUMMARY

Principal feeding areas Leota Bottom, Sheppard Bottom, Woods Bottom

Principal nesting areas Leota Bottom, Sheppard Bottom, Woods Bottom

Reported by Clyde E. Nicely

Clyde E. Nicely, Asst. Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

3-1751
Form NR-1A
(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge Ouray Months of January 1 to April 30, 1968

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. Water and Marsh Birds:										
Pied Billed Grebe	3	3/28	12	4/7-13	Still present					
Eared Grebe	10	3/28	10	3/24-4/6	Still present					
Western Grebe	1	4/10	16	4/21-27	Still present					
Great Blue Heron	3	3/28	10	4/21-27	Still present					
Snowy Egret	2	4/18	12	4/21-27	Still present					
Black-crowned Night Heron	6	4/18	16	4/21-27	Still present					
Glossy Ibis	5	4/18	19	4/21-27	Still present					
Sandhill Crane	100	3/11	250	3/17-23	175	3/25				
II. Shorebirds, Gulls and Terns:										
Killdeer	3	3/22	50	4/21-27	Still present					
Long-billed Curlew	1	4/18	1	4/18	1	4/18				
Sandpiper	15	4/10	50	4/21-27	Still present					
Western Willet	4	4/25	4	4/21-27	Still present					
Long-billed Dowitcher	45	4/4	75	4/21-27	Still present					
Marbled Godwit	8	4/18	8	4/14-20	8	4/20				
Avocet	6	4/18	14	4/21-27	Still present					
Black-necked Stilt	10	4/25	10	4/21-27	Still present					
Phalarope	60	4/4	200	4/21-27	Still present					
California Gull	3	4/12	9	4/14-20	9	4/20				
Ring-billed Gull	12	4/12	12	4/14-20	12	4/20				
Franklin's Gull	25	4/25	25	4/21-27	Still present					
Bonaparte's Gull	10	4/25	10	4/21-27	Still present					

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:	3	4/17	200	4/21-27	Still present			
Mourning dove								
White-winged dove								
IV. Predaceous Birds:								
Golden eagle	1	3/12	2	4/1-3	1	4/12		
Duck hawk								
Horned owl	2	4/1	6	4/1-27	Still present			
Magpie	20	1/1	150	4/1-27	Still present			
Raven								
Crow	6	4/10	25	4/12-14	25	4/14		
Bald Eagle	2	3/13	4	4/1-16	1	4/18		
Marsh Hawk	4	4/4	10	4/4-27	Still present			
A. Rough-legged Hawk	1	4/4	4	4/12-27	Still present			
Red-tailed Hawk	1	4/12	5	4/14-27	Still present			
Sparrow Hawk	2	3/27	20	4/14-27	Still present			
Pigeon Hawk	1	4/12	4	4/14-27	4	4/27		
Turkey Vulture	3	4/4	10	4/14-27	Still present			

Reported by Clyde E. Nicely
Clyde E. Nicely, Asst. Ref. Mgr.

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first migration record for the species for the reporting period.

(3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of youngproduced based on observations and actual counts.

(6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Ouray Months of January 1 to April 30, 19 68

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Tree-brush complex, river islands, agricultural bottomlands, 3750 acres.	3.9			1:3				500 ~~950~~	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Ouray Year ending April 30, 1968

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5) Total Population
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control*	For Re-stocking	For Re-search	Share Trapping Permit Number	Trappers Share	Refuge Share	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
Badger					4									
Striped Skunk					10									
White-tailed Jackrabbit														
Black-tailed Jackrabbit														
Desert Cottontail														
Bobcat														
Beaver														
Muskrat														
Raccoon				4										

*List removals by Predator Animal Hunter

REMARKS: No noticeable change in populations. Removals as listed.

Reported by Clyde E. Nicely
Clyde E. Nicely, Assistant Refuge Mgr.

NR-4

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.

(4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Ouray MONTHS OF ~~May 1~~ TO ~~August 31~~, 19~~68~~

(1) Species	(2) Weeks of reporting period: 4/28-5/4 (1)	5/4-11 (2)	5/12-18 (3)	5/19-25 (4)	5/26-6/1 (5)	6/2-8 (6)	6/9-15 (7)	6/16-22 (8)	6/23-29 (9)	6/30-7/6 (10)
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	50	42	28	47	37	32	44	20	47	12
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	130	135	139	156	160	125	57	50	58	72
Black										
Gadwall	875	556	325	94	275	250	205	200	190	250
Baldpate	215	155	140	14	60	68	37	45	45	30
Pintail	200	190	215	228	110	110	85	80	90	100
Green-winged teal	75	25	30		14		10	10		25
Blue-winged teal	85	66	25	6	52	40	50	30		20
Cinnamon teal	50	98	42	24	51	50	47	30	25	25
Shoveler	225	190	175	150	40		30	30	30	25
Wood										
Redhead	75	155	55	22	135	50	48	30	45	45
Ring-necked	60	65	37							
Canvasback	5	10	6	4						
Scaup	140	131	90	14	43	15	20		10	10
Goldeneye										
Bufflehead		50								
Ruddy	50	97	30	14	30	20	15	15	15	15
Other										
Coot:	2100	1155	1085	786	975	815	405	375	270	295

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Ouray MONTHS OF May 1 TO August 31, 1968

(1) Species	(2) Weeks of reporting period 7/7-13 (11)	7/14-20 (12)	7/21-27 (13)	7/28-8/3 (14)	8/4-10 (15)	8/11-17 (16)	8/18-24 (17)	8/25-31 (18)	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	18	40	30	35	85	110	210	300	8,309	5	40
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	125	265	300	335	300	555	1075	1473	37,570	25	225
Black											
Gadwall	275	380	425	500	450	345	370	325	44,079	40	310
Baldpate			20	35	30	150	200	210	10,178		
Pintail	125	180	245	218	200	220	370	400	23,562	15	175
Green-winged teal	30	47	75	110	150	210	175	200	8,008	8	60
Blue-winged teal	40	55	85	125	75	108	160	163	8,155	10	95
Cinnamon teal									3,054		
Shoveler	50	85	130	85	40	50	30		9,485	12	100
Wood											
Redhead	50	40	35	40	75	40	30	30	7,000		
Ring-necked									1,134		
Canvasback									175		
Scaup	20	20	30		20	35		40	4,466		
Goldeneye											
Bufflehead									350		
Ruddy	30	35	20		20	55	170	50	4,067	4	30
Other											
Coot:	190	150	140	150	160	295	675	1300	79,247	25	175

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	0	0	0
Geese	8,309	300	40
Ducks	161,283	2,871	995
Coots	79,247	2,100	175

SUMMARY

Principal feeding areas: Leota, Sheppard and Woods Bottoms. 320

Principal nesting areas: Leota, Sheppard and Woods Bottoms.

Reported by Clyde E. Nicely Assistant Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

6242

3-1751
Form NR-1A
(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge **Ouray** Months of **May 1** to **August 31**, 19**68**

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. Water and Marsh Birds:										
Eared Grebe	10	5/2	125	7/21-8/10	Still present		2	12	40	
Western Grebe	12	5/2	22	6/16-22	4	7/9				
Pied-billed Grebe	12	5/2	60	7/21-8/10	Still present			15	45	
Great Blue Heron	8	5/2	38	8/11-17	Still present					
Snowy Egret	4	5/2	30	7/14-20	Still present					
Black-crowned Heron	11	5/2	25	7/11-24	Still present					
Glossy Ibis	12	5/2	16	5/26-6/1	1	8/12				
II. Shorebirds, Gulls and Terns:										
Killdeer	50	5/2	110	7/7-8/3	30	8/26		35	125	
Long-billed Curlew	8	6/11	8	6/11	8	6/11				
Sandpiper	25	5/8	75	6/11	20	8/26				
Western Willet	12	5/2	15	5/29	6	8/7				
Avocet	12	5/2	40	7/17	4	8/26		30	60	
L. B. Dowitcher	55	5/8	137	6/5	20	8/7				
W. Phalarope	105	5/2	475	6/11	10	8/26				
Black-necked Stilt	10	5/2	35	7/17	10	8/26		15	30	
California Gull	17	5/22	17	5/19-25	10	7/18				
Forester's Tern	15	5/16	25	5/19-6/1	3	6/11				
Black Tern	12	6/11	20	6/30-7/6	10	7/11				

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	200	5/2	2500	7/28-8/17	400	8/28		
White-winged dove								
IV. Predaceous Birds:								
Golden eagle								
Duck hawk								
Horned owl	6	5/2	6	4/28-8/31	6	8/31		
Magpie	150	5/2	250	7/1-8/31	250	8/31		
Raven								
Crow								
Red-tailed Hawk	6	5/2	8	5/2-6/8	4	8/25-31		
Marsh Hawk	10	5/2	10	5/2-6/8	5	8/26		
Sparrow Hawk	20	5/2	20	5/2-6/8	10	8/26		
Turkey Vulture	10	5/2	15	5/19-25	6	8/26		
A. Rough-legged Hawk	4	5/2	4	5/2-25	2	6/6		

Reported by Clyde E. Nicol
Assistant Refuge Manager

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first migration record for the species for the reporting period.

(3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of youngproduced based on observations and actual counts.

(6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OS SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge **Ouray** For 12-month period ending August 31, 19**68**

Reported by Clyde E. Nicely Title **Assistant Refuge Manager**

(1) Area or Unit Designation	(2) Habitat Type	Habitat Acreage		(3) Use-days	(4) Breeding Population	(5) Production
Leota Bottom	Crops	0	Ducks	300,000	420	775
	Upland	3,172	Geese	15,000	8	14
	Marsh	214	Swans	3,444	0	0
	Water	1,094	Coots	105,502	270	125
	Total	4,480	Total	333,946	698	894
Sheppard Bottom	Crops	172	Ducks	516,119	210	125
	Upland	1,840	Geese	30,044	16	12
	Marsh	382	Swans	0	0	0
	Water	485	Coots	75,000	25	10
	Total	2,880	Total	621,163	251	147
Wyasket Bottom	Crops	0	Ducks	350,000	0	0
	Upland	3,290	Geese	15,000	4	8
	Marsh	438	Swans	0	0	0
	Water	352	Coots	0	0	0
	Total	4,080	Total	365,000	4	8
Wood Bottom	Crops	0	Ducks	75,000	70	95
	Upland	230	Geese	10,000	4	6
	Marsh	195	Swans	0	0	0
	Water	395	Coots	40,000	30	40
	Total	720	Total	125,000	104	141
Johnson Bottom	Crops	0	Ducks	15,000	0	0
	Upland	577	Geese	1,000	0	0
	Marsh	68	Swans	0	0	0
	Water	235	Coots	0	0	0
	Total	880	Total	16,000	0	0
Brennan Bottom	Crops	0	Ducks	5,000	0	0
	Upland	781	Geese	1,000	0	0
	Marsh	90	Swans	0	0	0
	Water	89	Coots	0	0	0
	Total	960	Total	6,000	0	0
Refuge Total:	Crops	172	Ducks	1,261,119	700	995
	Upland	9,890	Geese	72,044	32	40
	Marsh	1,388	Swans	3,444	0	0
	Water	2,650	Coots	320,502	325	175
	Total	14,000	Total	1,657,109	1,057	1,210

(over)

NR-1B

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.

(4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.

(5) Production: Estimated total number of young raised to flight age.

Interior Duplicating Section, Washington, D. C. 27580

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Ouray Months of May 1 to August 31, 19 68

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Tree-brush complex, river islands, agricultural bottom-lands, 3,750 acres.		500						1,080 *	
Chukar Partridge	One bird seen on refuge during spring.									
California Quail	None observed on refuge, several sightings just off refuge above Ouray Village.									

* This number is a population index based on Crow Count data and should not be considered to be an absolute population number.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Ouray MONTHS OF Sept. 1 TO Dec. 31, 1968

(1) Species	(2) Weeks of reporting period: 9/1-7 (1)	9/8-14 (2)	9/15-21 (3)	9/22-28 (4)	9/29-10/5 (5)	10/6-12 (6)	10/13-19 (7)	10/20-26 (8)	10/27-11/2 (9)	11/3-9 (10)
Swans:										
Whistling							3	11	72	60
Trumpeter										
Geese:										
Canada	300	300	350	350	350	400	400	400	450	450
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	1500	1600	1875	2855	3010	2132	1908	2335	1985	1804
Black										
Gadwall	310	400	436	830	675	450	280	362	110	41
Baldpate	255	250	205	130	160	95	30	57		
Pintail	400	500	535	804	570	440	265	1000	335	117
Green-winged teal	170	190	205	170	160	105	60	15	20	3
Blue-winged teal	110	150	120	85		40		10		1
Cinnamon teal										
Shoveler		6	30	55	45	50	60	60	50	50
Wood										
Redhead	35	40	110	115	130	110	80	20		
Ring-necked							10	20	20	30
Canvasback										
Scaup		30		50	105	30	30			
Goldeneye										
Bufflehead	5	20	50	110	120	135	206	260	285	257
Ruddy	60	50	45	40	50	95	20	100		18
Other										
Coot:	1400	1300	1655	1700	1350	1300	725	425	300	85

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Ouray MONTHS OF Sept. 1 TO Dec. 31, 19 68

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: seen	(4) Production Estimated total
	11/10-16: 11	11/17-23: 12	11/24-30: 13	12/1-7: 14	12/8-14: 15	12/15-21: 16	12/22-28: 17	18			
Swans:											
Whistling	165	221	200	68					5,600		
Trumpeter											
Geese:											
Canada	710	600	600	600	650	650	353		55,391		
Cackling											
Brant											
White-fronted											
Snow		1	1	1	1	1			35		
Blue											
Other											
Ducks:											
Mallard	2268	2677	3000	5000	10,000	10,000	2000		392,203		
Black											
Gadwall	40	66	9		25	25	25		28,238		
Baldpate		39							8,897		
Pintail	110	388	55	1000	300	300	25		50,008		
Green-winged teal		32							7,910		
Blue-winged teal									3,612		
Cinnamon teal											
Shoveler		30	6						3,094		
Wood											
Redhead	6								4,522		
Ring-necked									560		
Canvasback											
Scaup									1,725		
Goldeneye		1							7		
Bufflehead	119	32							11,193		
Ruddy											
Other											
Common Merganser		7							49		
Coot:	30	20							72,030		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	5,600	221	0
Geese	55,426	710	0
Ducks	512,018	10,325	0
Coots	72,030	1,700	0

SUMMARY

Principal feeding areas Sheppard, Woods, and Wyasket Bottoms.

Principal nesting areas

Reported by

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

6242

3-1751
Form NR-1A
(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge Ouray Months of Sept. 1 to Dec. 31, 19 68

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. Water and Marsh Birds:										
Eared Grebe	30	9/1	50	10/13-26	5	11/21				
Pied-billed Grebe	40	9/1	40	9/1-14	1	11/21				
Great Blue Heron	35	9/1	35	9/1-11/9	3	12/5				
Snowy Egret	15	9/1	15	9/1-10/12	5	10/25				
Black Crowned Heron	15	9/1	15	9/1-10/12	2	10/25				
II. Shorebirds, Gulls and Terns:										
Killdeer	30	9/1	30	9/1-14	2	10/25				
Sandpiper	20	9/1	20	9/1-7	20	9/7				
Avocet	15	9/1	15	9/1-7	1	10/10				
W. Phalarope	30	9/1	250	9/29-10/5	15	10/17				
Black-necked Stilt	15	9/1	20	9/8-14	2	9/18				
Ringbilled Gull	30	10/2	90	10/6-12	30	11/22				

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	400	9/1	400	9/1-7	10	9/26		
White-winged dove								
IV. Predaceous Birds:								
Golden eagle	1	11/18	3	12/8-31	Still present			
Duck hawk								
Horned owl	3	9/1	6	9/22-10/1?	Still present			
Magpie								
Raven								
Crow								
Bald Eagle	2	12/15	2	12/15-31	Still present			
Marsh Hawk	4	9/1	6	9/29-10/1?	1	11/30		
Sparrow Hawk	10	9/1	10	9/1-10/12	1	11/30		

Reported by Clyde E. Nicely, Asst. Refuge Mgr.

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first migration record for the species for the reporting period.

(3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of youngproduced based on observations and actual counts.

(6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge **Ouray** Months of **September 1** to **December 31**, 19**68**

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	**Tree-brush complex, river islands, agricultural bottom-lands, 3,750 acres**	**4.4**				**165**			**850**	

No sightings of other upland game birds this period.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge Ouray Calendar Year 1968

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover Types, Total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At Period of Greatest Use	As of Dec. 31	
Mule Deer	Found over entire refuge; river islands, brush along river, Savannah grasslands, croplands, dry benchlands, 14,000 acres.	40	27									120	65	

Remarks:

Reported by _____
Clyde E. Nicely, Asst. Refuge Manager

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed date may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1755
Form NR-5
60701

DISEASE

Refuge Ouray Year 1968

Botulism None

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Condition of vegetation and invertebrate life _____

Remarks _____

Lead Poisoning or other Disease

Kind of disease Unknown

Species affected Whitetail and Blacktail Jackrabbits.

Number Affected Species	Actual Count	Estimated
2	15	

Number Recovered Unknown

Number lost Unknown (Actual count-15)

Source of infection Unknown

Water conditions _____

Food conditions _____

Remarks Found no dead Cottontails.

3-1757
Form NR-7
(Rev. June 1960)

(1)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

Refuge Ouray Year 19 68

	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Los
Sago Pondweed	10 lb.	C	Sept.	Hand Picked	$10.00								

(1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

Total acreage planted:
Marsh and aquatic _____
Hedgerows, cover patches _____
Food strips, food patches _____
Forest plantings _____

Remarks: Collected for Browns Park Refuge.

76148

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlite Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Ouray County Uintah State Utah

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage	Green Manure, Cover and Water-fowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Fall Wheat			0	0	20	800 bu.	20	20 Green Browse	20
Corn	15 acres,	5 tons	0	0	40	600 bu.	108		108
Pasture								34 Green Browse	34
								Fallow Ag. Land	65

No. of Permittees: Agricultural Operations 1 Haying Operations 1 Grazing Operations 3

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
Grass-Clover-Alfalfa	26.75		$178.00	1. Cattle	345	1070	$353.10	9,485
				2. Other	4	20	$ 6.60	-
				1. Total Refuge Acreage Under Cultivation				162
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1570
NR-8a
(4/54)

REFUGE GRAIN REPORT

Refuge Ouray Months of Sept. 1 through Dec. 31, 1968

(1) Variety*	(2) On Hand Beginning of Period	(3) Received During Period	(4) Total	(5) Grain Disposed of				(6) On Hand End of Period	(7) Proposed or Suitable Use*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Fall Wheat	200 bu.	-	200 bu.					200 bu.		200 bu.	

(8) Indicate shipping or collection points

(9) Grain is stored at Granary - Refuge headquarters.

(10) Remarks

*See instructions on back.

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR–9.

(3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.

(4) A total of columns 2 and 3.

(6) Column 4 less column 5.

(7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters granary," etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

INT.-DUP. SEC., WASH., D.C. 17065

3-1761
Form NR-11
(2/46)

TIMBER REMOVAL

Refuge Ouray Year ~~1965~~ 1968

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
None								

Total acreage cut over..... Total income.....

No. of units removed B. F..... Method of slash disposal.....
Cords.....
Ties.....
.....

INT.-DUP. SEC., WASH., D.C. 36103

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

ANNUAL REPORT OF PESTICIDE APPLICATION

Refuge

Proposal Number | Reporting Year

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
July 15-Sept. 15	Cattail	In and around Leota Bottom Impoundments	200	Dowpon (2,2-Dichloropropionic Acid, Sodium Salt)	625 lbs. (531 lb. active ingredient)	6 lb. active ingredient per 50 gal. of solution. Wet foliage thoroughly.	48 gal. water, 2 gal. diesel fuel, 1 pt. emulsifier	Ground spray equipment

10. Summary of results (continue on reverse side, if necessary)

Obtained a 90%+ kill on foliage, with leaves turning brown in 7-10 days. Many seed heads matured despite the treatment. Final evaluation must wait for next growing season.

35500